



Faculty of Science  
DEPARTMENT OF MATHEMATICS AND STATISTICS  
Course Information Sheet

1. **Course:** MATHEMATICS 353 -- Calculus IV  
**Lecture/Time/Session:** L01 MWF 14:00-14:50 (SA 104) Winter 2006  
 L02 MWF 13:00-13:50 (A140)  
**Instructor:** V. Stastna  
**Office/Phone/email:** MS 450 220-3345 vstastna@math.ucalgary.ca

2. **Prerequisites:** Mathematics 349  
**NOTE:** The Faculty of Science policy on pre- and co-requisite checking is outlined in the current University Calendar (see [www.ucalgary.ca/pubs/calendar](http://www.ucalgary.ca/pubs/calendar)) *Faculty of Science, section 5C*. **It is the students' responsibility to ensure that they have the pre- and co-requisites for the course, and if they do not they will be withdrawn from the course without notice.**
3. **Fee policy:** After the last day to drop/add courses, there will be no refund of tuition fees if a student withdraws from a course, courses or the session.
4. **The University policy on grading and related matters** is described in the current University Calendar, *Academic Standings*. In determining the overall grade in the course, the following weights will be used:

Mid-term Test	[ 1 ]	20%
Quizzes	[ 5 ]	30%
Final Exam		50%

A passing grade on any particular component of the course is essential to passing the course as a whole. There will be a final examination scheduled by the Registrar's Office. \*\*\* The use of aids such as open book, etc. is not permitted.

5. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are outlined in the current University Calendar, *Faculty of Science, section 6A*. It is the student's responsibility to familiarize herself/himself with these regulations.
6. **Academic misconduct** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the current University Calendar. See: <http://www.ucalgary.ca/honesty/>
7. **Dates and times of class exercises held outside of class hours (evening tests, Saturday laboratory examinations, weekend field trips, etc.):** 90 minute MIDTERM: Friday, March 10, 17:00-18:30.

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a conflict with this out of class time activity, please inform your instructor at least one week in advance of the activity so that other arrangements may be made for you.

Associate Dean's approval for out of regular class time activity:

\_\_\_\_\_ Date: \_\_\_\_\_

Department approval: \_\_\_\_\_ Date: \_\_\_\_\_

8. **Textbook:** Adams, *Calculus of Several Variables* OR *Complete Course* -- any edition.

9. **Quizzes** will be written in the tutorials:

**Tuesdays:** Jan 24, Feb 7, Feb 28, Mar 21, Apr 4

**Thursdays:** Jan 19, Feb 2, Mar 2, Mar 23, Apr 6

**Mid-term** is scheduled out the class time: **March 10, 2006 17:00-18:30** Room: TBA.

## SYLLABUS

### Topics

### Number of Hours

#### Differentiation

Extrema of functions of several variables, Lagrange multipliers, Applications

10

#### Multiple Integrals

Double integrals, Iterated integrals, Double integrals in polar coordinates, Area, volume, Triple integrals, Triple integrals in cylindrical and spherical coordinates, Change of variables, Jacobians

13

#### Vector Calculus

Vector fields, Line integrals, Independence of path, Green's theorem, Curl and divergence, Surface integrals, Divergence Theorem, Stokes' Theorem

13

**TOTAL HOURS** 36

## TENTATIVE CALENDAR

<b>Week(s):</b>	<b>Sections (Selections from "Calculus of Several Variables, 5th edition)</b>
1, 2	10.1, 13.1, 13.2
3, 4	13.3, 14.1, 14.2
5, 6	14.3, 14.4, 14.5, 14.6
8, 9	15.1, 15.2, 15.3
10, 11	15.4, 15.5, 15.6
12, 13	16.1, 16.2, 16.3
14	16.4, 16.5